



CITY OF TUCSON

ENVIRONMENTAL MANAGEMENT PROGRAM

2008 STATUS SUMMARY

Prepared by
City of Tucson – Environmental Management Program
Governing Board
March 23, 2009

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LIST OF ACRONYMS

°C	degrees Celsius
A.A.C.	Arizona Administrative Code
ACM	Asbestos containing material
A.R.S.	Arizona Revised Statutes
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AZPDES	Arizona Pollutant Discharge Elimination System
CEP	City of Tucson Central Energy Plant
City	City of Tucson
COC	contaminants of concern
CY	cubic yards
EMS	Environmental Management System
EMP	Environmental Management Program
ESC	Environmental Science Corporation
LCS	laboratory control sample
LUST	leaking underground storage tank
mg	milligrams
mg/Kg	milligrams per kilogram
mg/L	milligrams per liter
mg/m ³	milligrams per cubic meter
MS/MSD	matrix spike/matrix spike duplicate
NFA	No Further Action
NOI	Notice of Intent
NOV	Notice of Violation
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PAH	polynuclear aromatic hydrocarbons
PCS	petroleum contaminated soil
PQL	practical quantitation limit
QA/QC	quality assurance/quality control
RAR	Remedial Action Report
RCRA	Resource Conservation and Recovery Act
RPD	relative percent difference
rSRL	residential soil remediation level
SRL	soil remediation level
SSHP	Site Safety and Health Plan
SWPPP	Storm Water Pollution Prevention Plan
TC	toxicity characteristic
TCC	City of Tucson Convention Center
TCLP	toxicity characteristic leaching procedure
TWA	time-weighted average
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VRP	Voluntary Remediation Program
WP	Work Plan

1.0 Introduction

The City of Tucson (COT) Environmental Management Program (EMP) Governing Board (GB) prepared this report summarizing 1) significant environmental activities that impacted City operations during the 2008 calendar year, 2) training activities, 3) environmental regulatory compliance, 4) recommended actions.

Background

In June 2002, the City Manager assigned and convened a selected group of department members to form an EMP with a goal to create a proactive, comprehensive and collaborative incident management plan. The framework of the plan was to provide all operating departments with a standardized incident management system that: 1) identifies assigned authority and responsibilities, 2) create an environmental training program for EMP members, and 3) develop an inter-departmental communications plan.

In December 2006, the City Manager signed the final version of Administrative Directive 8.01-1, adopting an Environmental Incident Notification Procedure (See Attached).

The EMP is entering its seventh year and continues to effectively manage and care for the City's environmental incidents and issues. The City's EMP is an evolving, growing, changing program that is based on the "Plan, Do, Check, Act" model. This model leads to continual improvement based upon:

Plan

Planning, including identifying environmental aspects and establishing goals

Do

Implementing, including training and operational controls

Check

Checking, including monitoring and corrective action

Act

Reviewing, including progress reviews and acting to make needed changes to the EMP.

2.0 2008 EMP Incidents

The EMP is involved with a wide variety of incidents impacted by environmental regulations. During 2008, incidents fell under three general categories; on-going incidents, new incidents, and quickly closed incidents. Below are brief summaries of the 2008 EMP incidents:

2.1 On-going Incidents

Central Energy Plant Heating and Cooling Line Release

The City's General Services Department (GSD) notified Environmental Services (ES) of leaking heating and cooling pipelines connected to the Central Energy Plant (CEP) at the Tucson Convention Center (TCC) on October 23, 2006. These pipelines connected the CEP to the Police and Fire Department headquarters buildings, and contained water with low concentrations of sodium nitrite which is a regulated compound. ES contacted Arizona Department of Environmental Quality (ADEQ) on October 27, 2006, to notify them of the system leak. The City subsequently met with ADEQ staff on November 8, 2006, to discuss the release and the City's planned environmental response. The site was accepted into ADEQ's Voluntary Remediation Program (VRP) on February 14, 2007. The City conducted assessment and investigation activities throughout 2007 and 2008. A site assessment and closure report summarizing the investigation was submitted to ADEQ in August 2008. On January 29, 2009, the City received a No Further Action (NFA) Determination in Soil from ADEQ. This NFA indicates the City has adequately addressed the soil impacts at this site, and no remediation or additional assessment is required. In February 2009, ES submitted supplemental information to ADEQ regarding the groundwater concerns at the site, and is waiting for ADEQ's review and comment.

Tucson Fire and Police Headquarters Former Fuel Facility

The leaking underground storage tank (LUST) case file for this site was originally opened on November 26, 1993, during the removal of the underground storage tank (UST) systems. The original release case was closed on November 9, 1999. Evidence of a release in the vicinity of the former fuel island was discovered during the investigation of the CEP Pipelines (discussed above), and was reported by the City to ADEQ on March 30, 2007. Based on subsequent assessment information supplied to ADEQ, the LUST case was reopened on August 14, 2007. The City conducted assessment and investigation activities throughout 2007 and 2008. The City submitted a site characterization report (SCR) to ADEQ on July 31, 2008. ADEQ approved the SCR on August 25, 2008, and has required the City to conduct corrective action and remediation of the soil and groundwater.

The City has an on-going program to remove free phase gasoline from three existing monitoring wells near the former UST site, and plans on expanding its corrective action activities. With the installation of additional equipment in 2009; the City plans to remediate the petroleum hydrocarbon compounds released from the former fuel facility, and enter into ADEQ's Monitored Natural Attenuation (MNA) program in 2010.

2.2 2008 New Incidents

- *June 2008:* Soil samples collected at a City surplus property located at 9th Avenue and 6th Street (515 N. 9th Ave.) during a preliminary Site Assessment indicated the soil on the property had been impacted by metals and petroleum compounds. Several compounds exhibited concentrations above State residential Soil Remediation Levels (rSRL). To be protective of human health, the City posted signs, and subsequently installed a chain link fence limiting access around the property perimeter. The City is conducting additional soil assessment activities and evaluating potential corrective action alternatives.
- *May 2008:* A large diameter, out-of-service irrigation line containing reclaimed water failed at the Del Urich Golf Course. The release was estimated to be approximately 180,000 gallons, and impacted a nearby arroyo. The line was repaired, and subsequently taken out-of-service. City staff notified ADEQ of the reclaimed water release. Parks and Recreation, and Golf are updating their records regarding old infrastructure and pipelines. No regulatory action was received from ADEQ.
- *April 2008:* A citizen complained of a chemical smell in drinking water fountain at Oury Park. Parks and Recreation responded to the site. ES, Tucson Fire Department (TFD), and Tucson Water (TW) staff responded to assess the issue. Water samples were collected and analyzed, finding no exceedences of drinking water standards. Subsequent investigation discovered the waterline feeding the drinking fountain had been recently repaired, and the chemical odor detected by the citizen was likely an artifact of the repair process. Notification was sent to any departments involved with repair or replacement of drinking water systems, that section 609.9 of the uniform Plumbing Code must be followed when working on drinking water systems. This section deals specifically with proper flushing and disinfection of repairs.
- *December 2007 – January 2008:* A release of heavy grade oil at a City Transportation Department (TDOT) construction area (intersection of 5th Avenue & Stevens Avenue) occurred over a rainy weekend in December 2007. ES, TDOT and TFD staff responded to the site and met with representatives of Union Pacific Railroad (the property immediately adjacent to the project). The source and quantity of the release was not able to be determined. TFD utilized their emergency response contractor to clean up the release, containerize the petroleum impacted soil, and collect characterization samples. The sample results identified elevated levels of petroleum compounds and lead. Samples collected from the cleaned up areas indicated no impacted soil remained in place. Upon review of the characterization test results, the soil was properly disposed at a landfill facility in central AZ.

2.3 Quickly Closed 2008 Incidents

- *October 2008:* An estimated 2,700 gallons of effluent/filter-backwash water was released at TW's Sweetwater Wetlands Facility. The leak was repaired. In accordance with the facility's ADEQ Aquifer Protection Permit (APP), City staff notified ADEQ. No follow up action was required.
- *May 2008:* Two four-liter bottles of regulated liquid chloroform were being delivered to Tucson Police Department's (TPD) laboratory on south Stone Avenue. The bottles were broken by the delivery truck driver. TFD responded and contained the release. The materials were properly stored, and collected for disposal by the responsible party. In compliance with Federal regulations, City staff contacted the National Response Center within the 24 hour notification limits to report the spill. No follow up action was required.
- *April 2008:* A small leak from the heating water loop at the Thomas O. Price Service Center (TOPSC) was detected. The system was shut down and sampled. City staff notified ADEQ of the release. The sample results indicated no regulated materials were in the water that had leaked from the system. City staff notified ADEQ of the test results, that the system was being abandoned in place, and replaced with an above ground pipeline. No follow up action was required.
- *March 2008:* TW staff mistakenly used an unknown amount of petroleum based pump lubricant in some of their production wells. This type of lubricant had been previously phased out and replaced with a food grade lubricant. City staff reported the possible petroleum use to ADEQ. TW collected samples from suspected wells and distribution system locations. Test results verified no petroleum impacts were present in the drinking water. Results were reported to ADEQ. No follow up action was required.
- *March 2008:* TW staff discovered evidence of a leak of sodium hypochlorite at their reclaimed water facility on Sweetwater Road. An unknown quantity had been released in soil surrounding a leaking pipeline. The pipeline was taken out of service and drained. In accordance with the facility's ADEQ APP, City staff notified ADEQ. The soil was subsequently excavated, contained, characterized, and disposed of at the Los Reales landfill. No follow up action was required.

3.0 Training

Part of any EMP is environmental training. The City's EMP contains a basic outline to train all levels of City staff at the department level, and to specifically train senior staff that is part of the EMP committee.

3.1 2008 Training Plan

In March 2008 the EMP GB submitted an education and training plan to the City Manager's Office. The following items are components of this training plan:

- *City Manager's Endorsement:* A "Manager's Message" was to be distributed to kick off the EMP education and training program. This program is a significant component of the City's environmental awareness and stewardship policies.
- *New Employee Orientation:* The EMP A.D. is being presented and explained along with the City's existing spill policy by Central Safety Services. This training was added to the existing training program in mid 2007.
- *Central Safety Services:* An "EMP Overview" power-point presentation was made at the January 2008 safety meeting. COT environmental issue updates will be presented by EMP staff at the monthly safety meetings.
- *Individual City Departments:* EMP staff met with departmental representatives to review department specific environmental concerns. A team approach was used to make a 20 to 30 minute long "EMP Overview" power-point presentation to each department. To minimize impacts to the department's time, EMP staff intends to coordinate these presentations into existing staff-meeting agendas. The first departmental presentation took place at TW, on March 26, 2008.
- *Council Offices:* The "EMP Road Show" will be presented to the council offices. The EMP A.D. will be presented, explained, and the Council's respective environmental issues and concerns will be discussed and prioritized for EMP follow-up action.
- *Ongoing Outreach:* Develop mandatory environmental awareness training program for employees through the Employee University. Develop an EMP community outreach brochure and video for public presentations.

3.2 Departmental Training

During 2008, EMP staff contacted departments City-wide, and coordinated with their EMP representatives. Many of the departments have participated in the initial training that included the "EMP Overview" power-point presentation (see Attachment #1) as shown in Table 1 (following page). Training will continue at the department level throughout 2009.

Table 1

<i>“EMP Overview” Power Point Presentation — Training Tracking</i>			
Department	Primary Contact	Training Date	Comments
Managers Office	Mike Letcher		
Ward Offices			
Environmental Services, ETS	Nancy Petersen	July 2008	Presented during Staff Meeting
City Attorney	Blake Ashley	✓	Received Presentation at EMP Mtg.
CIO	Ann Strine		
Cons. & Sust. Development	Leslie Liberti		
Development Services	Jim Vogelsberg		
Environmental Services	Andrew Quigley	June 2008 August 2008	Presentation To Pat Tapia’s Supervisors Follow-up Supervisors Presentation
Fire	Dan Uthe	June 2008 July 2008	Presentation to Fire Prevention Inspectors Presentation to Senior Command Staff
General Services	Dale Suter	July 2008	Presentation To GS Senior Staff
Community Services	Andrea Ibanez		
Parks & Recreation	Sterling Ford	May 2008	Presentation to Staff during Discussions of Pipeline leak
Urban Planning	Albert Elias		
Police	Bill Richards	September 2008	Presentation to Senior Command Staff
Procurement	Mark Neihart		
Central Safety	Brandy Kadous	✓	Received Presentation at EMP Mtg.
PSEM&HS-TFD.	Jan McLay	✓	Received Presentation at EMP Mtg.
Risk Mgmt	Joel Peterson		
Transportation	Jim Glock	April 2008 July 2008	TDOT Senior Staff Meeting Presentation TDOT Streets Dept. presentation
Tucson Water	Jeff Biggs	March 2008	Presentation to Senior Staff
Shaded/ Blue department identifies Governing Board Member Green indicates Governing Board Chairperson			

3.3 Quarterly Training for EMP Committee Members

Part of each quarters meeting agenda included time for training for the entire EMP committee. See below a breakdown by quarter of the training topics:

- **March 25, 2008**
COT's Draft Sustainability Strategic Plan presented by the Office of Conservation and Sustainable Development.
- **June 24, 2008**
City of Scottsdale Environmental Management System (EMS) presented by City of Scottsdale staff.
City of Phoenix Environmental Programs presented by City of Phoenix staff.
- **September 23, 2008**
Climate Change-Greenhouse Gases and Government Actions-presented by the University of Arizona.
City Legal Requirements and Programs Regarding Greenhouse Gases presented by the Office of Conservation and Sustainable Development.
Pima County Governments Greenhouse Gas-Emissions Inventory presented by the Pima Association of Governments.
- **December 16, 2008**
Guided Tour of Los Reales Landfill- Conducted by ES staff. A visit and discussion of the activities on the working face and the construction of the newest cell.

4.0 Regulatory Compliance

The City received only one Notice of Violation (NOV) in 2008. TFD received a NOV during a training exercise due to asbestos being present in a structure being used and burned for training. The City addressed the NOV and it is closed. The City was compliant with all other environmental permits.





5.0 Recommendations for Future EMP Actions

During 2009 the City's EMP will be moving forward with the following action items:

- Present the "EMP Overview" power-point presentation including the Administrative Directive 8.01-1, the Environmental Incident Notification Procedure to the Ward offices. Presentations planned to start in April 2009.
- Complete departmental training including the EMP Environmental Incident Notification power-point presentation to departments not yet visited.
- Conduct an EMP Table-Top exercise in June 2009, using NIMS/ICS.
- Coordinate the implementation and use of the City's Emergency Management software with EMP activities.
- Develop an on-line environmental awareness training module for use on the employee university.
- Investigate possible revisions to the EMP; to possibly include EMS ideas from other municipalities.
- Continue to monitor, communicate, and manage environmental incidents as they occur.
- Review and evaluate corrective actions taken on environmental incidents, make revisions as necessary.
- Implement a new City policy on pesticide application certifications for staff.
- Assist City Parks and Recreation to implement a new chlorine gas monitoring and testing program at City pools.
- Assist City Procurement Department to develop new procedures for the acquisition of "Green Products" for City use.
- Create an EMP website.


Appendix #1


**CITY OF
TUCSON**

**Environmental
Management
Program**

Richard M. Byrd, CHMM
Lead Hydrologist




Environmental Services Department
January 2009




Background

- Environmental Management Program (EMP) established by City Manager in 2002
- Made up of members from selected departments
- EMP created City-wide policy and procedure for communications and management of environmental incidents



Environmental Services Department
January 2009




**Fundamental Concepts of
Environmental Management**

Planning:
The overall goal of environmental management planning is to set objectives and targets for improving environmental performance. The City does this by analyzing all of the possible impacts City operations could have on the environment and then selecting the highest priority items to focus on. Along with this comes a commitment from City management to provide the resources necessary to achieve these objectives and targets.

Doing:
Now comes the implementation phase. First, someone is appointed to manage the EMP (in the City's case, it's the deputy director of Environmental Services). This manager and others create a structure, which becomes the mechanism for telling employees citywide about the EMP, helping them understand that their jobs have impacts on the environment, and then helping them implement EMP procedures and goals in their various workplaces. This "doing" phase also includes communicating EMP goals, and finally developing procedures for any emergencies that may occur: spills, emissions, and accidents.

Checking:
From time to time, the City will measure how successfully it is achieving its environmental objectives. The idea here is not to punish, but to correct any problems and continually improve operations (a process of perpetual learning). It also recognizes good performance and anticipates problems before they occur.

Acting:
There is an annual review of the EMP. The process depends on managers asking key questions: Are we meeting our objectives and targets? Are we saving money? What changes seem necessary? They may decide that changes to the EMP need to be made and "Act" to make improvements. These questions bring the entire process back again to the planning phase, and the cycle begins anew.




Environmental Services Department
January 2009

ESD

Objectives


- Develop effective and timely interdepartmental communications to address environmental incidents
- Encourage city-wide coordination for addressing environmental issues
- Provide environmental education for employees
- Educate EMP members to identify relevant environmental and regulatory requirements
- Provide assessment and review process for City's responses to environmental incidents


Environmental Services Department
January 2009

ESD

Objectives (continued)


- Coordinate communication throughout City on environmental issues
- Ensure City's environmental compliance performance to safeguard human health, natural and built environment
- Establish consistent application of environmental standards throughout City
- Protect City from environmental-related liability
- Foster positive environmental ethic
- Encourage use (public/private) of environmentally friendly materials



Environmental Services Department
January 2009

ESD

Benefits of EMP


- Saves Taxpayers Money
- Ensures Worker Safety
- Instills Public Confidence
- Environmental Safety
- Assists with Regulatory Compliance
- Prevents Environmental Incidents
- Provides Method for Early Response to Minimize Incident
- Brings More Resources to use on the Incident
- Provides a Protocol for managing incidents when they occur


Environmental Services Department
January 2009




Related City Programs

- Multi-Agency Inspection Team (MAITS)
- Public Safety Emergency Management & Homeland Security
- Office of Conservation and Sustainable Development
- TDOT Stormwater
- Central Safety Services Spill Program
- Risk Management




Environmental Services Department
January 2009




Interdepartmental Assistance

Environmental Services works with EMP members to assist each department in responding quickly and effectively to their environmental issues---
Contact us with questions or concerns: 791-5414




Environmental Services Department
January 2009



Environmental Regulatory Responsibilities

Clean Water Act
Clear Air Act
RCRA Hazardous Waste
CERCLA
National Pollutant Discharge Elimination System
Safe Drinking Water Act



Environmental Services Department
January 2009

ESD

Administrative Directive 8.01-1

Environmental Incident Notification Procedure

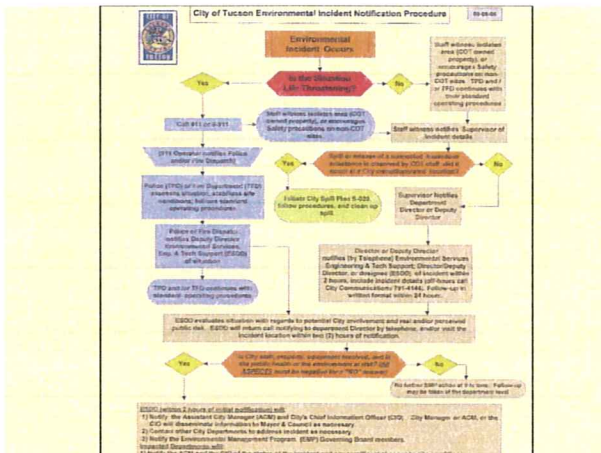
AD was signed by City Manager—
Dec. 4, 2006

AD Connects EMP's notification
procedure to the City's Hazard
Communication Program and Spill
Program

ESD

Environmental Services Department

January 2009



ESD

Causes of Environmental Incidents

Legacy Problems (Historic Policies or Practices)

Lack of Funding

"Pilot Error" or "S.F."

Friday afternoons or 3-day weekends

Acts of God


ESD

Environmental Services Department

January 2009


ESD


An Example of Pre-EMP
Spill Notification AD. . .

 Environmental Services Department
January 2009

ESD


Kinder Morgan's leaking pipeline

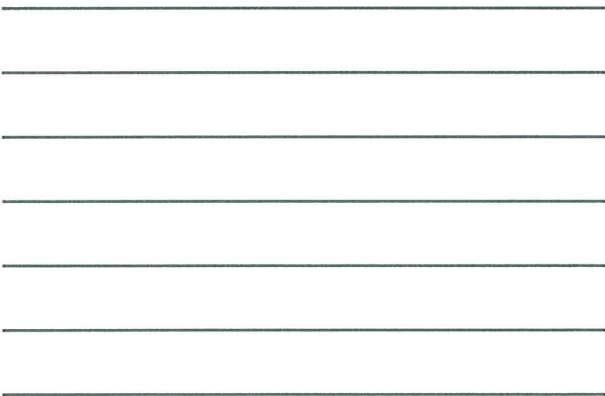
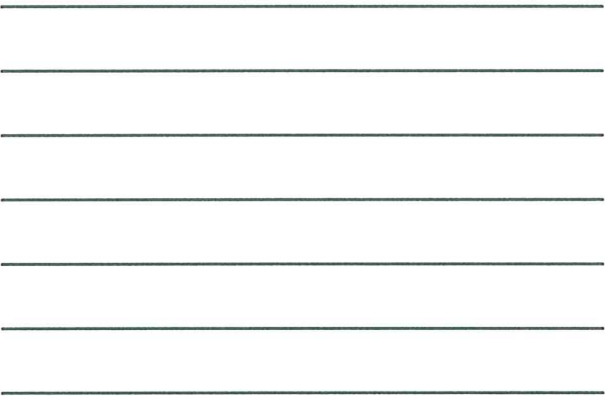
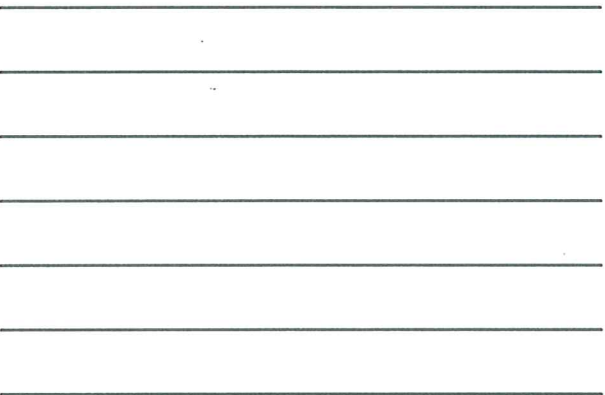


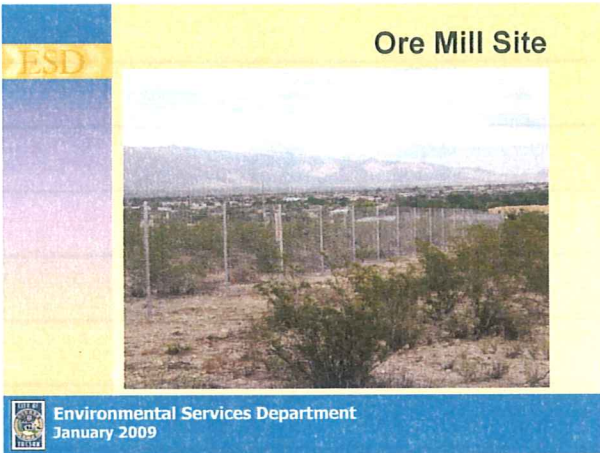
 Environmental Services Department
January 2009

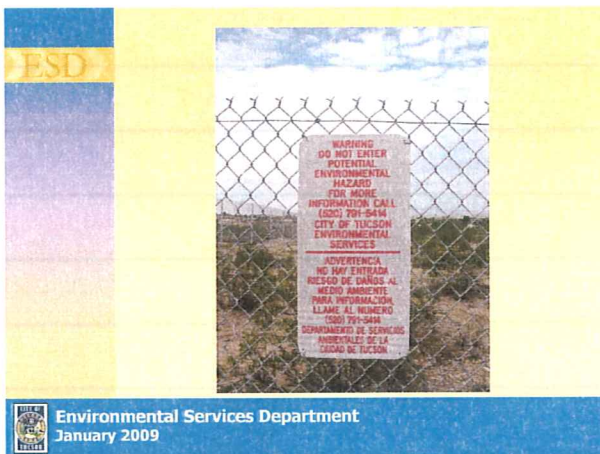
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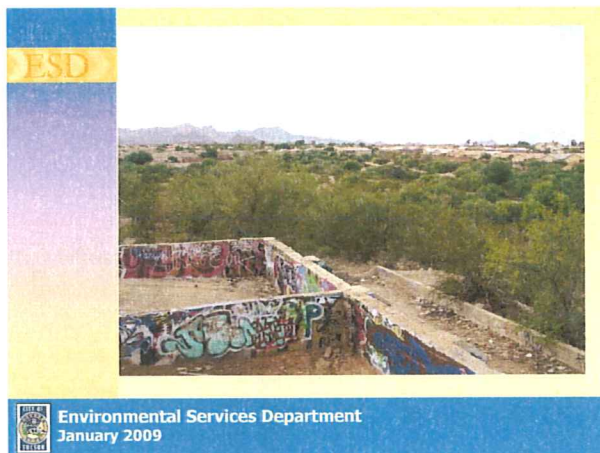
Examples of cooperative
interdepartmental incident
responses....

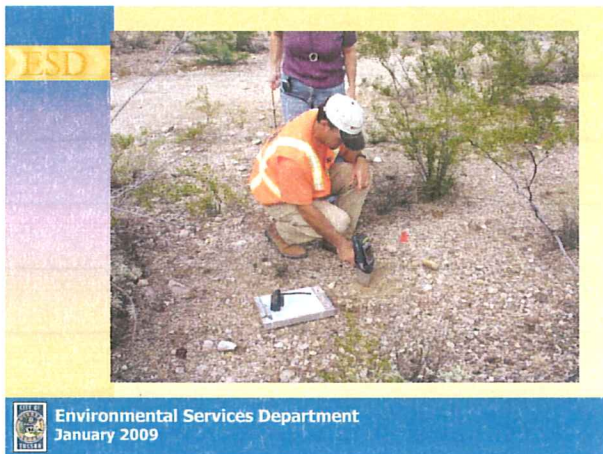
 Environmental Services Department
January 2009











Conclusions

- Always call 911 first if the incident is life-threatening
- Notify your supervisor of any incidents, even if you are not sure what was spilled
- If you just *suspect* a release to the environment, still notify your supervisor
- Get to know your EMP representative. Call him (or me) if you have any questions.
- Richard Byrd 837-3710 or 409-8900 (Cell)

Environmental Services Department
January 2009
